
DEPARTMENT OF THE INTERIOR**Fish and Wildlife Service****50 CFR Part 17****Endangered and Threatened Wildlife and Plants; Proposed Endangered Status for *Eriastrum densifolium* ssp. *sanctorum* (Santa Ana River Woolly-star) and *Centrostegia leptoceras* (Slender-Horned Spineflower)**

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Proposed rule.

SUMMARY: The Service proposes to determine two plants, *Eriastrum densifolium* ssp. *sanctorum* (Santa Ana River woolly-star) and *Centrostegia leptoceras* (slender-horned spineflower), to be endangered species. *Eriastrum densifolium* ssp. *sanctorum* occurs patchily on the higher floodplain terraces of the Santa Ana River from Redlands east to the mouth of the Santa Ana Canyon in San Bernardino County, southern California. A disjunct stand occurs on Lytle Creek in the city of San Bernardino. *Centrostegia leptoceras* is currently known from four small isolated populations. The total area occupied by this species is less than 4

hectares (10 acres). Historic and present threats facing these plants include encroaching developments within the floodplain, grazing by domestic animals, and competition from exotic plants. Determinations that *Eriastrum densifolium* ssp. *sanctorum* and *Centrostegia leptoceras* are endangered species would implement the protection provided by the Endangered Species Act of 1973, as amended. The Service seeks comments and data related to this proposal.

DATE: Comments from all interested parties must be received by June 9, 1986. Public hearing requests must be received by May 27, 1986.

ADDRESSES: Comments and materials concerning this proposal should be sent to Wayne S. White, Chief, Division of Endangered Species, U.S. Fish and Wildlife Service, Lloyd 500 Building, 500 NE Multnomah Street, Suite 1692, Portland, Oregon 97232. Comments and materials received will be available for public inspection, by appointment, during normal business hours at the above address.

FOR FURTHER INFORMATION CONTACT: Mr. Wayne S. White, Chief, Division of Endangered Species, at the above address (503/231-6131 or FTS 429-6131).

SUPPLEMENTARY INFORMATION:

Background

Eriastrum densifolium ssp. *sanctorum* was first collected by Hall. This subspecies was described as *Gilia densifolia* var. *sanctora* by Milliken (1904) and renamed as *Huegelia densifolia* var. *sanctorum* by Jepson (1925). Wootton and Standley (1913) proposed the replacement of *Huegelia* with *Eriastrum*; Mason (1945) accepted the new genus name. *Centrostegia leptoceras* was first collected by Lobb in 1849. It was described by Gray in 1870 (Torrey and Gray 1870); and then placed in the genus *Chorizanthe* by Watson (1877). Goodman (1934) transferred it back to *Centrostegia*.

Eriastrum densifolium ssp. *sanctorum* is a shrub occasionally reaching one meter (3.3 feet) in height. This plant has gray-green stem and leaves. The bright blue flowers are up to 30 millimeters (1.4 inches) long and are contained in heads of about 20 blossoms each.

Centrostegia leptoceras is a small prostrate annual. The diameter of the basal rosette of a mature plant varies between about 3 and 10 centimeters (1.4 and 4.5 inches). The flowering stalks are from 5 to 15 centimeters (2.3 to 6.8 inches) in length, and bear three-lobed bracts at the nodes. The leaves and bracts turn bright red with age. One to three involucre containing several

flowers each occur at an axil and are 4 to 6 millimeters (0.2 to 0.3 inches) long (Munz 1974).

Eriastrum densifolium ssp. *sanctorum* is endemic to the Santa Ana River drainage of southern California. Formerly this subspecies occurred on the higher floodplain terraces of the Santa Ana River and its tributaries in Orange, Riverside and San Bernardino Counties. The range of elevations occupied by the subspecies was from about 150 to 600 meters (500 to 2,000 feet) (Craig 1934, Mason 1945). The current range of the plant extends from about 360 to 630 meters (1,200 to 2,000 feet) in elevation along the Santa Ana River in San Bernardino County. A disjunct stand occurs on Lytle Creek (Zemba and Kramer 1984).

Centrostegia leptoceras was formerly more widespread, and occurred on old sandy benches or floodplain terraces containing alluvial fan scrub vegetation in Los Angeles, San Bernardino, and Riverside Counties (Munz 1974). The plant is currently known from only four localities, totaling less than 4 hectares (10 acres) in extent, in San Bernardino and Riverside Counties (Krantz 1984).

Eriastrum densifolium ssp. *sanctorum* was once a conspicuous shrub in the alluvial fan scrub of the higher floodplain terraces of the Santa Ana River and its tributaries. This habitat type receives little natural disturbance. Sheet flood flows probably occur once every one or two hundred years; the scouring of such flows appears to maintain the alluvial fan scrub vegetation. The perennial vegetative cover where these plant species occur is relatively low (seldom over 50%); annual cover is also fairly low (Zemba and Kramer 1984). The plant community is characterized by old *Juniperus californica* (California Juniper), *Cercocarpus betuloides* (mountain mahogany) and *Eriodityon trichocalyx*. *Eriastrum densifolium* ssp. *sanctorum* is found in disjunct stands within this habitat, and tends to occupy areas showing slight surface disturbance (Zemba and Kramer 1984). Conversely, *Centrostegia leptoceras* exists in small isolated areas lacking any evidence of surface disturbance (Reveal and Krantz 1979; Krantz 1984).

The Secretary of the Smithsonian Institution, as directed by Section 12 of the Endangered Species Act of 1973 (Act), prepared a report on those native U.S. plants considered to be endangered, threatened, or extinct in the United States. This report (House Document No. 94-51), which included *Centrostegia leptoceras* but not *Eriastrum densifolium* ssp. *sanctorum*, was presented to Congress on January 9,

1975. On July 1, 1975, the Service published a notice in the **Federal Register** (40 FR 27823) accepting the report as a petition within the context of Section 4(c)(2) of the Act (petition acceptance is now governed by Section 4(b)(3)(A)) and giving notice of its intention to review the status of the plant taxa named therein, including *Centrostegia leptoceras*. On June 16, 1976, the Service published a proposed rule in the **Federal Register** (41 FR 24523) to determine approximately 1,700 vascular plant species, including *Centrostegia leptoceras*, to be endangered species pursuant to Section 4 of the Act. This list was assembled on the basis of comments and data received by the Smithsonian Institution and the Service in response to House Document No. 94-51 and the July 1, 1975, **Federal Register** publication. General comments on the 1976 proposal were summarized in an April 26, 1978, **Federal Register** publication (43 FR 17909).

In 1978, amendments to the Endangered Species Act required that all proposals over two years old be withdrawn. A 1-year grace period was given to those proposals already more than 2 years old. Subsequently, on December 10, 1979, the Service published a notice (44 FR 70796) of the withdrawal of the portion of the June 16, 1976, proposal that had not been made final, along with four other proposals that had expired. This notice of withdrawal included *Centrostegia leptoceras*.

The Service published an updated notice of review for plants on December 15, 1980 (45 FR 82480). This notice included *Centrostegia leptoceras* and *Eriastrum densifolium* ssp. *sanctorum*. This was the first time *E. densifolium* ssp. *sanctorum* was considered by the Service as a candidate for Federal listing. On February 15, 1983, the Service published a notice (48 FR 6752) of its prior finding that the listing of these two species may be warranted in accordance with Section 4(b)(3)(A) of the Act as amended in 1982. On October 13, 1983, October 12, 1984, and again on October 11, 1985, further findings were made that the listing of *Centrostegia leptoceras* and *Eriastrum densifolium* ssp. *sanctorum* was warranted, but precluded by other pending listing actions, in accordance with Section 4(b)(3)(B)(iii) of the Act. Such a finding requires the petition to be recycled, pursuant to Section 4(b)(3)(C)(i) of the Act. The present proposal constitutes a finding that the listing is warranted. The Service proposes to implement the petitioned action, in accordance with Section 4(b)(3)(B)(ii) of the Act.

Summary of Factors Affecting the Species

Section 4(a)(1) of the Endangered Species Act (16 U.S.C. 1531 *et seq.*) and regulations promulgated to implement the listing provisions of the Act (codified at 50 CFR Part 424) set forth the procedures for adding species to the Federal lists. A species may be determined to be an endangered or threatened species due to one or more of the five factors described in Section 4(e)(1). These factors and their applications to *Eriastrum densifolium* (Benth.), *Mason ssp. sanctorum* (Milliken) Mason and *Centrostegia leptoceras* Gray are as follows:

A. *The present or threatened destruction, modification, or curtailment of its habitat or range:* *Eriastrum densifolium ssp. Sanctorum* once occurred on the higher floodplain terraces along the Santa Ana River and its tributaries in Orange, Riverside, and San Bernardino Counties. It has been extirpated from Orange and Riverside Counties. In Orange County, urban development, citrus groves, horse stables, and urban parks occur to the edge of the Santa Ana River. In Riverside County, the higher floodplain terraces contain urban neighborhoods, ranches and agriculture, and sand and gravel mines. The terraces that have not been built upon or converted to agriculture have been overgrazed. In San Bernardino County where the Santa Ana River has been channelized (mostly with earthen banks), urban and agricultural developments occur to its edge. *Eriastrum densifolium ssp. Sanctorum* now occurs in isolated stands along the Santa Ana River in San Bernardino County between 360 and 630 meters (1,200 and 2,000 feet) in elevation. One disjunct population remains on Lytle Creek at 360 meters (1,200 feet) in elevation.

Centrostegia leptoceras once occurred in alluvial fan scrub of Los Angeles, San Bernardino, and Riverside Counties. Currently it is known from 4 localities totaling less than 4 hectares (10 acres) in extent. Populations occur adjacent to Lytle Creek, the Santa Ana River, Temescal Creek, and the San Jacinto River (Krantz 1984). The alluvial fan scrub of Los Angeles County has been replaced by the ever-expanding cities of the Los Angeles Basin. Most former San Bernardino localities have been overtaken by urbanization or sand and gravel mines.

Extant populations of *Eriastrum densifolium ssp. sanctorum* and *Centrostegia leptoceras* in San Bernardino County are further threatened by proposed sand and gravel mines on

private and Bureau of Land Management owned lands. In addition, an indirect effect of flood-control dams proposed by the Army Corps of Engineers in the upper Santa Ana River Canyon and Lytle Creek could be relaxation of zoning restrictions that now apply to flood plain development. Such zoning changes could allow increased urbanization downstream from the dams and lead to the extinction of the *Eriastrum* and to the extirpation of the *Centrostegia* in San Bernardino County. The San Jacinto and Temescal Creek drainages of Riverside County are also sites of urbanization, and agricultural developments. Both Riverside County populations of *Centrostegia leptoceras* are in private ownership. Private developments have been occurring immediately adjacent to the San Jacinto River population.

B. *Overutilization for commercial, recreational, scientific, or educational purposes.* Neither of these species is known to have suffered as a result of collecting or other utilization. However, the *Eriastrum* is extremely attractive when in flower and could be sought by collectors, and the *Centrostegia* is found on easily disturbed sites that could be damaged by curiosity seekers.

C. *Disease or predation.* Historically, cattle grazing affected many of the areas once supporting *Eriastrum densifolium ssp. sanctorum* and *Centrostegia leptoceras*. In some areas the plant species composition was undoubtedly altered significantly by grazing animals. Although grazing may have contributed to the extirpation of these species in some places, areas that are now grazed are so altered that they no longer appear to be capable of supporting the *Eriastrum* or the *Centrostegia*, even if grazing were to cease. Grazing does not appear to be a threat in those areas still supporting these species.

D. *The inadequacy of existing regulatory mechanisms.* No regulatory mechanisms exist at the present time except for a general prohibition against destroying or removing vegetation on BLM land without a permit to do so. Federal listing may encourage State listing pursuant to the California Endangered Species Act of 1985.

E. *Other natural or manmade factors affecting its continued existence.* *Eriastrum densifolium ssp. sanctorum* and *Centrostegia leptoceras* do not occur in areas dominated by weedy exotics such as *Bromus rubens* and *Brassica geniculata*. As a prostrate annual, which apparently requires full sun and cannot tolerate any disturbance, *C. leptoceras* is especially sensitive to invasion of taller annual

species. All known *C. leptoceras* localities are near areas dominated by such weedy exotics.

The populations of these plant species on land in Federal ownership are within the Bureau of Land Management's Metropolitan Project Area of Southern California. The Bureau is currently transferring its land holdings in this Project Area to other Federal and private agencies. Lands now occupied by *E. densifolium ssp. sanctorum* and *C. leptoceras* may face additional threats if they are removed from federal ownership.

The Service has carefully assessed the best scientific and commercial information available regarding the past, present, and future threats faced by these species in determining to propose this rule. Based on this evaluation, the preferred action is to list *Eriastrum densifolium ssp. sanctorum* and *Centrostegia leptoceras* as endangered. This preference reflects the strong likelihood that without the protection of the Endangered Species Act of 1973 as amended, these plant species would become extinct throughout their ranges.

Critical Habitat

Section 4(a)(3) of the Act, as amended, requires that to the maximum extent prudent and determinable, the Secretary designate any habitat of a species which is considered to be critical habitat at the time the species is determined to be endangered or threatened. The Service finds that designation of critical habitat is not prudent for these species at this time. Only one of the four localities for *Centrostegia leptoceras* is in Federal ownership. *Eriastrum densifolium ssp. sanctorum* does occur mainly on Federal lands; however, it is a conspicuous and attractive shrub. Designation of critical habitat for these two plant species would likely focus attention upon them and their rare and vulnerable status and might encourage vandalism or taking for collections or commercial ends. As mentioned above, the *Eriastrum* is an attractive shrub when flowering and could easily be subjected to horticultural collecting if its habitat were closely identified through publication of maps and descriptions. The *Centrostegia*, while probably not a likely horticultural subject, is confined to extremely localized sites that could easily be disturbed by foot traffic if they were made known to curiosity-seekers. The potential danger posed to these species by designating critical habitat outweighs the minimal protection that such designation would provide.

Available Conservation Measures

Conservation measures provided to species listed as endangered or threatened under the Endangered Species Act include recognition, recovery actions, requirements for Federal protection, and prohibitions against certain practices. Recognition through listing encourages and results in conservation actions by Federal, State, and private agencies, groups, and individuals. The Endangered Species Act provides for possible land acquisition and cooperation with the States and requires that recovery actions be carried out for all listed species. Such actions are initiated by the Service following listing. The protection required of Federal agencies and the prohibitions against trade and collecting are discussed, in part, below.

Section 7(a) of the Act, as amended, requires Federal agencies to evaluate their actions with respect to any species that is proposed or listed as endangered or threatened and with respect to its critical habitat if any is being designated. Regulations implementing this Interagency Cooperation provision of the Act are codified at 50 CFR Part 402, and are now under revision (see proposal at 48 FR 29990; June 29, 1983). Section 7(a)(4) requires Federal agencies to confer informally with the Service on any action that is likely to jeopardize the continued existence of a proposed species or result in destruction or adverse modification of proposed critical habitat. If a Federal action may affect a listed species or its critical habitat, the responsible Federal Agency must enter into formal consultation with the Service.

Two Federal agencies have proposed projects that may affect these plant species. The Army Corps of Engineers, Los Angeles District proposes to construct dams on the upper Santa Ana River Canyon and Lytle Creek Canyon. The Bureau of Land Management has proposed to lease some of its lands occupied by *Eriastrum densifolium* ssp. *sanctorum* and *Centrostegia leptoceras* for sand and gravel mining. Additionally, the Bureau of Land Management lands may be removed from Federal ownership as part of an ongoing project to dispose of its smaller parcels. Listing of these plant species under the Act would encourage the transfer of these lands to another Federal agency or a private organization that would provide for their conservation.

The Act and its implementing regulations found at 50 CFR 17.61, 17.62, and 17.63 set forth a series of general trade prohibitions and exceptions that

apply to all endangered plant species. With respect to *Eriastrum densifolium* ssp. *sanctorum* and *Centrostegia leptoceras*, all trade prohibitions of section 9(a)(2) of the Act, implemented by 50 CFR 17.61, would apply. These prohibitions, in part, would make it illegal for any person subject to the jurisdiction of the United States to import or export, transport in interstate or foreign commerce in the course of commercial activity, or sell or offer for sale these species in interstate or foreign commerce. Certain exceptions can apply to agents of the Service and State Conservation agencies. The Act and 50 CFR 17.62 and 17.63 also provide for the issuance of permits to carry out otherwise prohibited activities involving endangered species under certain circumstances. It is anticipated that few trade permits would ever be sought or issued since the species are not common in cultivation or in the wild.

Section 9(a)(2)(B) of the Act, as amended in 1982, prohibits the removal and reduction to possession of endangered plant species from areas under Federal jurisdiction. This prohibition would apply to *Eriastrum densifolium* ssp. *sanctorum* and *Centrostegia leptoceras*. Permits for exceptions to this prohibition are available through regulations to be codified at 50 CFR 17.62 (50 FR 39681, September 30, 1985). Both species occur on Federal lands, but the Service anticipates that there will be few such applications with respect to these two species. Requests for copies of the regulations on plants and inquiries regarding them may be addressed to the Federal Wildlife Permit Office, U.S. Fish and Wildlife Service, Washington, DC 20240 (703/235-1903).

Public Comments Solicited

The Service intends that any final rule adopted will be accurate and as effective as possible in the conservation of endangered or threatened species. Therefore, any comments or suggestions from the public, other concerned governmental agencies, the scientific community, industry, or any other interested party concerning any aspect of these proposed rules are hereby solicited. Comments particularly are sought concerning the following:

- (1) Biological, commercial trade, or other relevant data concerning any threat (or lack thereof) to *Eriastrum densifolium* ssp. *Sanctorum* or *Centrostegia leptoceras*;
- (2) The location of any additional populations of *Eriastrum densifolium* ssp. *Sanctorum* or *Centrostegia leptoceras* and the reasons why any habitat should or should not be

determined to be critical habitat as provided by Section 4 of the Act;

(3) Additional information concerning the range and distribution of these species; and

(4) Current or planned activities in the subject area and their possible impacts on *Eriastrum densifolium* ssp. *Sanctorum* or *Centrostegia leptoceras*.

Final promulgation of regulations on *Eriastrum densifolium* ssp. *Sanctorum* and *Centrostegia leptoceras* will take into consideration the comments and any additional information received by the Service, and such communications may lead to a final regulation that differs from this proposal.

The Endangered Species Act provides for a public hearing on this proposal, if one is requested. Requests must be filed within 45 days of the date of the proposal. Such requests should be made in writing and addressed to the Regional Director (AFA-SE), U.S. Fish and Wildlife Service, 500 N.E. Multnomah Street, Suite 1692, Portland, Oregon 97232.

National Environmental Policy Act

The Fish and Wildlife Service has determined that an Environmental Assessment, as defined under the authority of the National Environmental Policy Act of 1969, need not be prepared in connection with regulations adopted pursuant to Section 4(a) of the Endangered Species Act of 1973, as amended. A notice outlining the Service's reasons for this determination was published in the *Federal Register* on October 25, 1983 (48 FR 49244).

Literature Cited

- Craig, T. 1934. A revision of the subgenus *Huegelia* of the genus *Gilia* (Polemoniaceae). *Bull. Torr. Bot. Club.* 61:385-386.
- Goodman, G.J. 1934. A revision of the North American species of the genus *Chorizanthe*. *Ann. Mo. Bot. Gard.* 21:91.
- Jepson, W. L. 1925. *Manual of the Flowering Plants of California*. Associated Students' Store, University of California, Berkeley.
- Krantz, T. 1984. A review of the endangerment status of the slender-horned spineflower *Centrostegia leptoceras* Gray and the Santa Ana River woolly star *Eriastrum densifolium* ssp. *sanctorum* (Mkln.) Mason. BIO-TECH Planning Consultants. Big Bear Lake, California.
- Mason, H. L. 1945. The genus *Eriastrum* and the influence of Bentham and Gray upon the problems of generic confusion in Polemoniaceae. *Madrono* 8:65-91.
- Milliken, J. 1904. A review of the California Polemoniaceae. University of California Publications in Botany 2:1-71.
- Munz, P.A. 1974. *A Flora of Southern California*. University of California Press. Berkeley and Los Angeles. 1086 pp.

- Reveal, J.L. and T. Krantz. 1979. California Native Plant Society Rare Plant Status Report on *Centrostegia leptoceras*.
- Torrey, J. and A. Gray. 1980. A revision of the Eriogoneae. Proc. Amer. Acad. Arts. 8:191-192.
- Watson, S. 1877. Description of new species of plants with revision of certain genera. Proc. Amer. Acad. Arts. 12:269.
- Wootton, E.O. and P.C. Standley. 1913. Description of new plants preliminary to a report upon the flora of New Mexico. Contributions from the U.S. National Herbarium 16(4).
- Zemba, R. and K.J. Kramer. 1984. The known limited distribution and unknown future of Santa Ana River eriastrum. Crossosoma 10(5):1-8.

Author

The primary author of this proposed rule is Karla J. Kramer, U.S. Fish and Wildlife Service, 24000 Avila Road, Laguna Niguel, California 92677.

List of Subjects in 50 CFR Part 17

Endangered and threatened wildlife, Fish, Marine mammals, Plants (agriculture).

Proposed Regulations Promulgation**PART 17—[AMENDED]**

Accordingly, it is hereby proposed to amend Part 17, Subchapter B of Chapter

I, Title 50 of the Code of Federal Regulations, as set forth below:

1. The authority citation for Part 17 continues to read as follows:

Authority: Pub. L. 93-205, 87 Stat. 884; Pub. L. 94-359, 90 Stat. 911; Pub. L. 95-632, 92 Stat. 3751; Pub. L. 96-159, 93 Stat. 1225; Pub. L. 97-304, 96 Stat. 1411 (16 U.S.C. 1531 *et seq.*).

2. It is proposed to amend § 17.12(h) by adding the following, under family names indicated, to the List of Endangered and Threatened Plants:

§ 17.12 Endangered and threatened plants.

* * * * *

(h) * * *

Species		Historic range	Status	When listed	Critical habitat	Special rules
Scientific name	Common name					
Polemoniaceae—Phlox family:						
<i>Eriastrum densifolium</i> ssp. <i>Sanctorum</i>	Santa Ana River woolly-star	U.S.A. (CA).....	E.....	NA	N
Polygonaceae—Buckwheat family:						
<i>Centrostegia leptoceras</i>	Slender-horned spineflower	U.S.A. (CA).....	E.....	NA	N

Dated: March 23, 1986.

P. Daniel Smith,

Deputy Assistant Secretary for Fish and Wildlife and Parks.

[FR Doc. 86-7926 File 4-8-86; 8:45 am]

BILLING CODE 4310-55-M